

CLAIMS

1. A winch assembly including a winch spool, an hydraulic drive motor, means for coupling said drive motor to said winch spool whereby to effect rotation of said winch spool by said drive motor, hydraulic supply means for supplying hydraulic fluid to said drive motor, and control means for controlling the supply of hydraulic fluid from said hydraulic supply means to said hydraulic motor.
2. A winch assembly as claimed in claim 1 wherein said hydraulic supply means comprises an hydraulic pump and wherein said control means includes means for controlling operation of said pump.
3. A winch assembly as claimed in claim 2 wherein said hydraulic pump is adapted to be driven by an electric drive motor and wherein said control means includes means for controlling the connection of said electric drive motor to a power supply.
4. A winch assembly as claimed in claim 2 or claim 3 and including control valve means connecting said hydraulic pump to said hydraulic motor and wherein said control means includes means for controlling operation of said valve means.
5. A winch assembly as claimed in claim 4 wherein said valve means comprises a solenoid operated valve and wherein said control means includes switch means selectively actuatable to connect said pump motor and said solenoid valve to said power supply.
6. A winch assembly as claimed in claim 5 wherein said control means include means for delaying the supply of current from said power supply to said hydraulic pump upon actuation of said switch means whereby said pump motor commences operation after operation of said solenoid valve.
7. A winch assembly as claimed in claim 5 or claim 6 wherein said control means includes a remote control unit for remotely controlling operation of said switch means.
8. A winch assembly as claimed in claim 4 wherein said control means is adapted to cause

operation of said pump after operation of said valve means.

9. A winch assembly as claimed in claim 1 wherein said coupling means between said drive motor and winch spool prevents disengagement of said drive motor from said winch spool when said winch is subject to a load.

10. A winch assembly as claimed in claim 9 wherein said coupling means comprises a clutch which when actuated directly couples said drive motor to said spool and actuating means for actuating said clutch.

11. A winch assembly as claimed in claim 10 wherein said clutch comprises a dog clutch having complementary clutch members connected to said drive motor and spool respectively.

12. A winch assembly as claimed in claim 11 wherein said complementary clutch members comprise at least one pin or dog and a least one complementary aperture for receiving the at least one pin or dog.

13. A winch assembly as claimed in claim 12 wherein said at least one pin or dog is provided on a drive plate coupled to said motor and wherein said at least one aperture is provided on a driven plate connected to or forming part of said spool.

14. A winch assembly as claimed in any one of claims 11 to 13 wherein said spool is mounted for movement axially to effect engagement of said clutch members or disengagement of said clutch members.

15. A winch assembly as claimed in claim 14 wherein said clutch actuating means is operative to move said spool axially to effect engagement of the clutch members.

16. A winch assembly as claimed in claim 15 and including means for causing operation of said clutch actuating means when fluid is supplied from said pump to said winch drive motor whereby to cause engagement of said drive motor with said spool through said clutch.

17. A winch assembly as claimed in claim 16 wherein said actuating means comprises an

hydraulic actuator and wherein said actuator is connected to hydraulic supply lines to said drive motor whereby fluid is supplied to said hydraulic actuator to cause and maintain engagement between said drive motor and said spool clutch when fluid is supplied to said drive motor.

18. A winch assembly as claimed in claim 17 and including further valve means between said control valve means and said drive motor, said further valve means controlling the supply of fluid from said control valve means to said drive motor and exhaustion of fluid from said drive motor to delay operation of said drive motor until operation of said control valve means.

19. A winch assembly as claimed in claim 1 and including braking means associated with said hydraulic motor and operable to brake said drive motor and thereby prevent spool rotation when said drive motor is not supplied with fluid.

20. A winch assembly as claimed in claim 1 wherein said control means includes control valve means and wherein said hydraulic supply means includes an hydraulic pump, said control valve means being connected between said pump and said drive motor and wherein control means includes means for delaying operation of said pump and/or supply of fluid to said drive motor until after the operation of said control valve means.